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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,643	06/30/2000	Ralf Wolleschensky	GK-ZEI-3092/500343.20085	9448

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EXAMINER

GILL, ERIN M

ART UNIT PAPER NUMBER

2881

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/607,643

Applicant(s)

WOLLESCHENSKY ET AL.

Examiner

Erin-Michael Gill

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AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24, 26, 27, 29-34 and 36-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24, 26, 27, 29-34 and 36-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's arguments filed 11/14/2003 have been fully considered but they are not persuasive. Applicant has amended all independent claims to include the limitation wherein "the manipulator means is purposefully optimized by feeding back a measurement signal". All of the previously rejected claims and newly amended claims either contain this limitation or are dependent upon a claim containing this limitation and applicant has argued that all of the claims are allowable because Silberberg does not teach a measurement signal being fed back into the system. Silberberg Col 3 paragraph 1 teaches the claimed measurement signal feedback. Additionally, cancelled claim 35 was rejected for the various recitations of an optimized measurement signal in Silberberg. Therefore, the claim rejections are repeated below with the inclusion of Silberberg Col 3 paragraph 1 and made final.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 24, 26, 29-31, 34-40, 42-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Silberberg et al. US Patent No. 6327068 (hereafter Silberberg). The claims are copied below and specific references within Silberberg will be noted parenthetically.
4. Regarding claim 24, Silberberg teaches a device comprising, a dispersive element for spatially separating the spectral components of the laser radiation (Figure 1 Ref. No. 14); means for manipulating individual spectral components (Figure 1 Ref. No. 18); and the manipulator means is purposefully optimized by feeding back a measurement signal and the desired

measurement signal is therefore adjusted (Col 3 paragraph 1); and an element for spatially superimposing the manipulated individual spectral components (Figure 1 Ref. No. 15).

5. Regarding claim 26, Silberberg teaches, a device according to claim 24, wherein, after manipulation, the spectral components are reflected at a mirror and superimposed again by the dispersive element (Unnumbered mirror of Figure 5 and beam splitter 22 of Figure 1).

6. Regarding claim 29, Silberberg teaches, a device according to claim 24, wherein prisms or gratings are used as dispersive elements (Figure 1 Ref. No. 14, 15).

7. Regarding claim 30, Silberberg teaches, a device according to claim 24, wherein the manipulator means generates an amplitude modulation of the spectral components (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

8. Regarding claim 31, Silberberg teaches a device according to claim 24, wherein the manipulator means generates a phase modulation of the spectral components (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

9. Regarding claim 34, Silberberg teaches, a device according to claim 24, wherein a spatial light modulator is used in the Fourier plane as a manipulator means (Figure 1 reference number 18).

10. Regarding claim 36, Silberberg teaches, a device according to claim 47, wherein the phase modulation in the manipulator means is used to compensate higher-order dispersion by the use of the feedback (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

11. Regarding claim 37, Silberberg teaches, a device according to claim 47, wherein the phase modulation in the manipulator means is optimized depending on the center wavelength of the short pulse laser by the use of feedback (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

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12. Regarding claim 38, Silberberg teaches, a device according to claim 47, wherein the phase modulation in the manipulator means is optimized depending on the utilized objective by the use of the feedback (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

13. Regarding claim 39, Silberberg teaches, a device according to claim 47, wherein the phase modulation in the manipulator means is optimized depending on the utilized average output by the use of feedback (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

14. Regarding claim 40, Silberberg teaches, a device according to claim 47, wherein, by the use of feedback, the phase modulation in the manipulator means is adjusted depending on the depth of penetration into a preparation to be examined and a nonlinearly excited fluorescence signal is therefore optimized (Col 4 lines 27-31).

15. Regarding claim 42 Silberberg teaches, a device according to claim 47, wherein the phase modulation in the manipulator means is optimized depending on the utilized objective by the use of feedback (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

16. Regarding claim 43, Silberberg teaches, a device according to claim 24, wherein a specific excitation of fluorescence dyes is carried out by phase modulation and amplitude modulation in the manipulator means (Col 4 lines 27-31).

17. Regarding claim 44, Silberberg teaches, a device according to claim 42, wherein the optimization is carried out selectively. (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

18. Regarding claim 45, Silberberg teaches, a device according to claim 24, wherein a specific resolution of reactions in the fluorescence dyes is carried out by phase modulation and amplitude modulation in the manipulator means (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

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19. Regarding claim 46, Silberberg teaches, a device according to claim 24, wherein a specific bleaching of dyes is carried out by phase modulation and amplitude modulation in the manipulator means (Figure 5, Col. 9 lines 25-43, and Col. 5 lines 3-7).

20. Regarding claim 47, all of the limitations in this claim have been addressed above.

Claim Rejections - 35 USC § 103

21. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

22. Claims 27, 32, 33, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simon et al. US Patent No. 5995281 (hereafter Simon) in view of Silberberg.

23. Regarding claim 27, Simon Figures 1, 2, and 3 show a device for coupling a short pulse laser into a laser scanning microscope beam path (abstract) comprising prisms or gratings for spatially separating the spectral components of the laser radiation (7.1, 8.2); and other prisms or gratings (7.3, 7.4, 8.4, 8.3).

24. Regarding claim 32, Simon claim 4 teaches the light being "effected via at least one monomode fiber". A monomode fiber is equivalent to a single mode fiber, Official notice taken.

25. Regarding claim 33, Simon Col 6 lines 8-13 teaches that the "polarization...is identical in every reflection". This is equivalent to the inclusion of a single mode fiber which is polarization preserving. Official notice taken.

26. Regarding claim 41, Simon Col. 4 lines 8-25 teaches the pulse front and the spherical aberration are optimized additionally by an adaptive acousto-optic element.

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27. However, with regards to all of these claims, Simon fails to teach the inclusion of a means for manipulating individual spectral components within the apparatus.

28. Silberberg teaches the manipulating means for adjusting individual components (figure 1 reference number 18).

29. It would have been obvious to one of ordinary skill in the art at the time the invention was made to insert the manipulating means of Silberberg into the apparatus of Simon because the later invention of Silberberg was designed expressly for controlling the pulse in a short pulse laser, a problem which was stated in Simon (Col 1 lines 24-33), and such an incorporation of which would allow better control of the pulse in a short pulse laser.

Conclusion

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin-Michael Gill whose telephone number is 571-272-2471.

The examiner can normally be reached on M-F (8:30-5:00 EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 703-308-4116. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EMG


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